CHARGE NUMBER: 6906

PROGRAM TITLE: BIOLOGICAL EFFECTS OF SMOKE

PERIOD COVERED: April 1 - April 30, 1973

PROJECT LEADER: L. Weissbecker

DATE OF REPORT: May 8, 1973

I. BENZYPYRENE HYDROXYLASE

Leukocyte culturing procedures have been established. The cells have been grown in culture for 72 hours. The lymphocytes multiply and increased number of cells are seen after 24 hours. Acetone at 50 µl/ml affects cell growth adversely. Twenty-five µl/ml may not affect cells (based on one experiment only).[1]

II. YEAST CELLS

The effects of smoke from various cigarettes upon growth kinetics, CO_2 output and O_2 uptake of yeast did not correlate well with other long-term biological assays. The inhibitory effects appear to be due to the gas phase of smoke. Equivalent doses of condensate did not produce a significant effect upon yeast cell parameters while the gas phase did.

Condensate doses were increased until a 50% growth inhibition was achieved at 0.8 ml condensate/l of media. Yeast cells were incubated with condensate and maximum inhibition was seen after 6.5 hours. Repeated experiments showed that X6DOAD was slightly more inhibitory than IRI.[2]

Last month's report contained an error in the relationship between yeast cell numbers and optical density readings at 660 mµ. The equations should read:[3]

Cell count: $3195 \cdot 10^3$ X OD_{660} for 0,0 intercept and

Cell count: $1234 \cdot 10^3 + 2956 \cdot 10^3$ X OD_{660} not corrected for 0,0 intercept.

III. REFERENCES

1. Marie Minor 6901 56-71
2. W. K. Neal, Jr. 6138
3. J. A. Jones 6234 57-66

/slm

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Source: https://www.industrydocuments.ucsf.edu/docs/qlxm0000